

# The Georgia Bight Shorebird Conservation Initiative

Abby Sterling

Shorebird biologist, Manomet





# What does Manomet do?



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**NATURAL SYSTEM** FOREST SYSTEM FOOD SYSTEM ECONOMIC SYSTEM

GRID LIST

**Arctic Shorebird Demographics Network (ASDN)**

**American Oystercatcher Recovery**

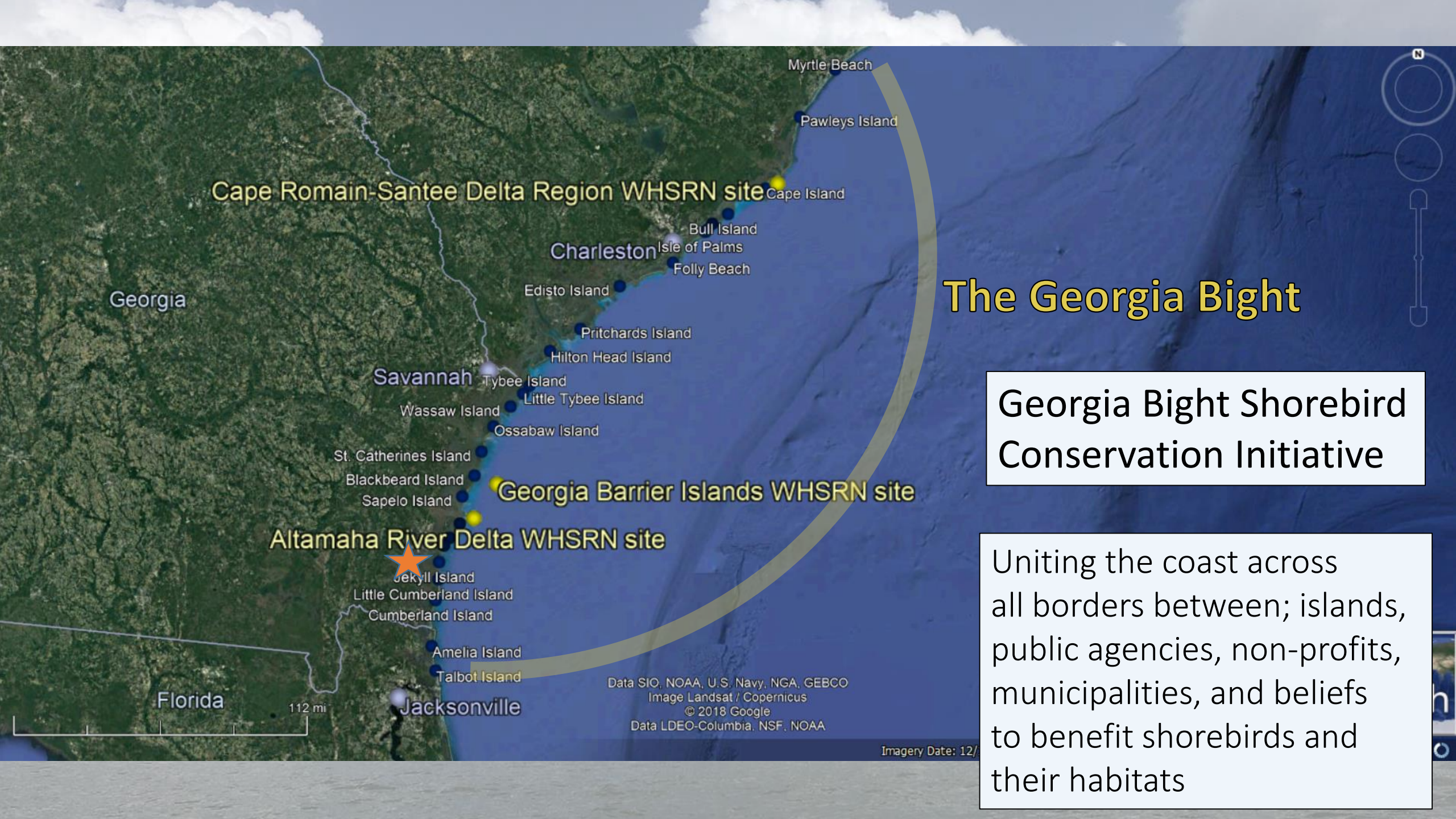
**Arctic Research**

**Banding Lab**

**Climate Lab**

**Georgia Bight Shorebird Conservation**



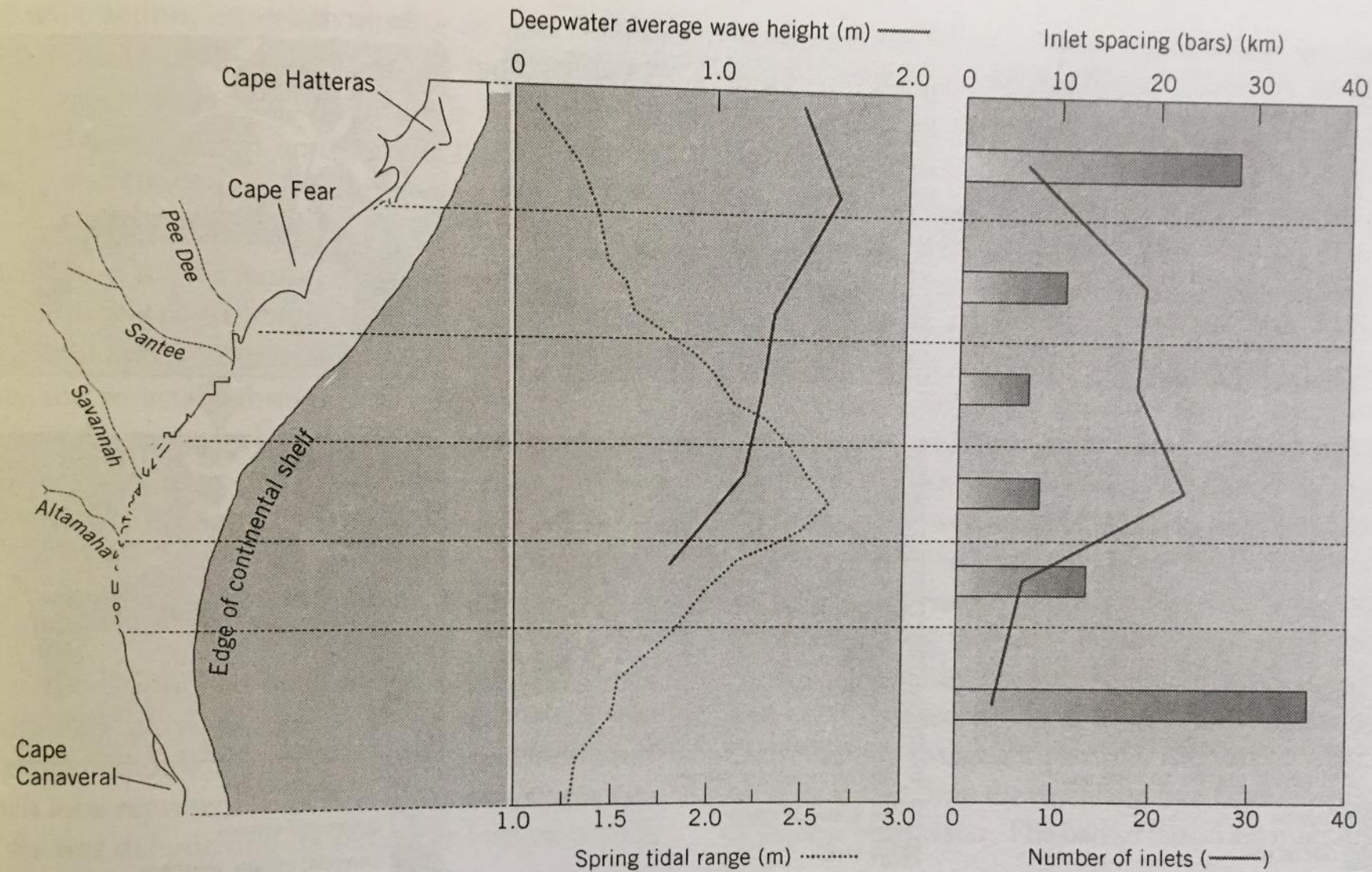


# The Georgia Bight

## Georgia Bight Shorebird Conservation Initiative

Uniting the coast across all borders between; islands, public agencies, non-profits, municipalities, and beliefs to benefit shorebirds and their habitats



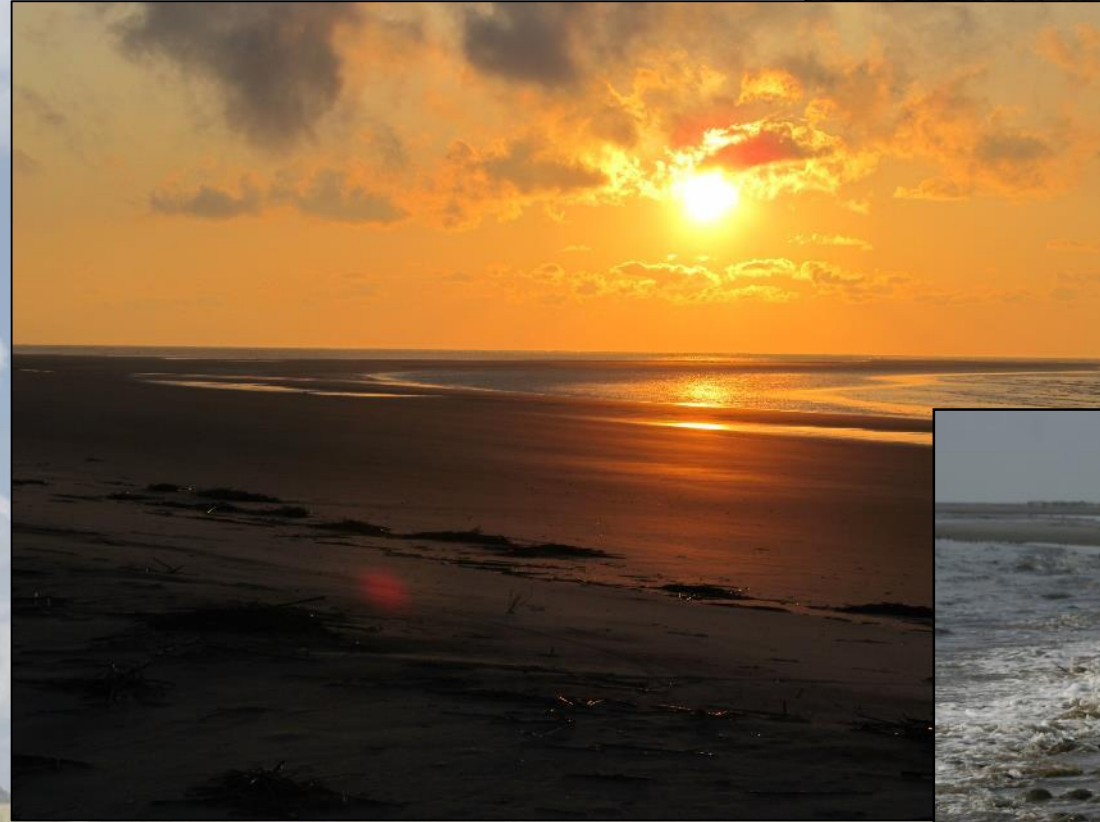


**Fig. 8.27** The Georgia Bight exhibits a systematic alteration in coastal morphology that is largely a product of change in wave versus tidal energy, which in turn is a function of continental shelf width. (From D. M. FitzGerald, 1996, using data from D. Nummedal, G. Oertel, D. K. Hubbard & A. Hine, 1977, Tidal inlet variability – Cape Hatteras to Cape Canaveral. In *Proceedings of Coastal Sediments '77*. Charleston, SC: ASCE, pp. 543–62; Hayes, 1979, details in Fig. 8.3.)



# The Georgia Bight offers...

- Extensive remote beaches
- High tidal range
- Vast expanses of mud and sand flats
  - Abundant food resources
  - Altamaha and other large river estuaries
- Minimal shoreline engineering, few modified inlets
- Many areas with limited disturbance
- Impoundments and managed wetlands



# Habitat of hemispheric importance throughout the year



August-October (Fall)  
March-May (Spring)

## Migration

Some shorebirds travel thousands of miles without stopping and need to rest and refuel here.



October-March

## Winter

Good food resources, and mild winters make Georgia's coast a critical winter destination for many species.



March-September

## Nesting

Threatened and rare species raise chicks on the beaches and need space to keep their babies safe

Birds rely on the Bight year-round!



# Issues

Disturbance,  
habitat loss,  
climate  
change, low  
reproductive  
success





## Issues

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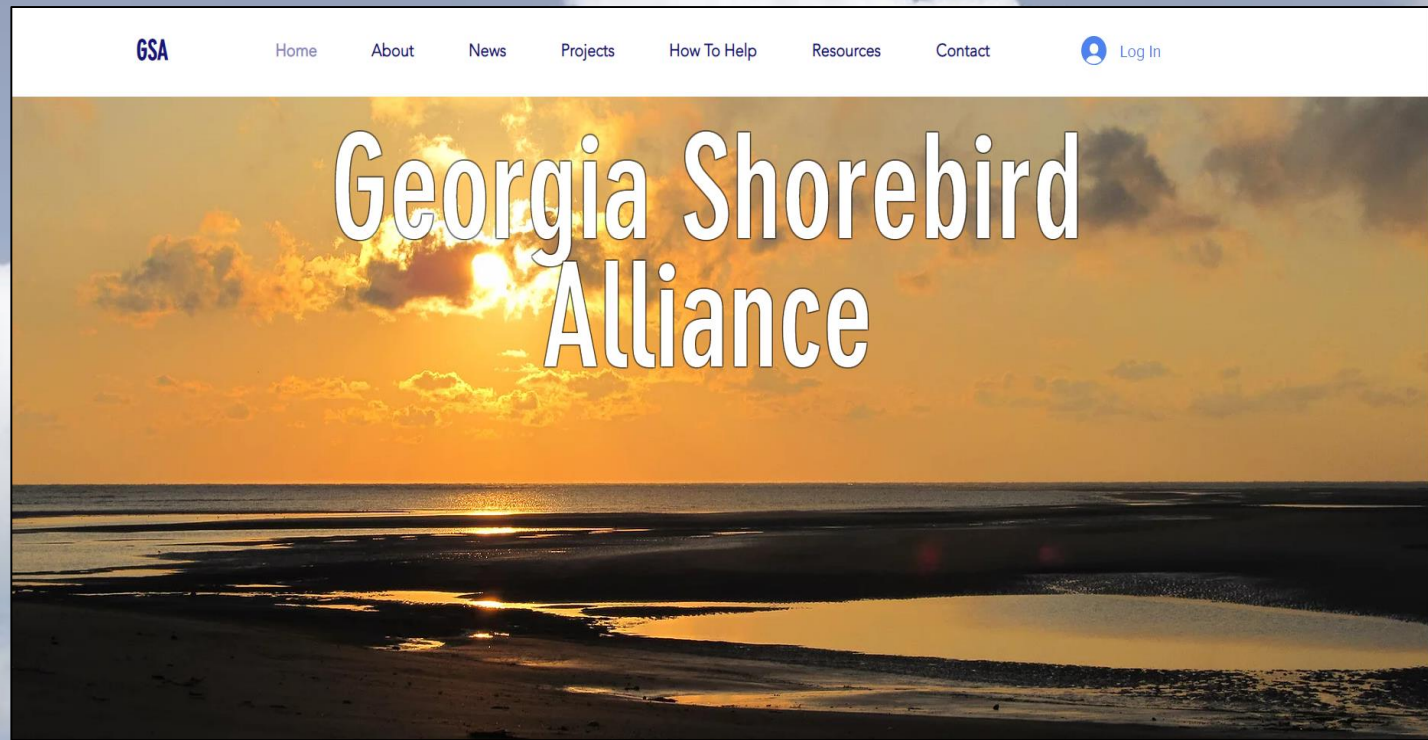


## Tools

Partnerships,  
education and  
outreach, research,  
management



- A partnership between government, academic, non-government organizations, private landowners, community members and volunteers
- Formed in 2012, led by Georgia DNR
- Used to apply for WHSRN designation, cooperative grants







GABSCI seeks to:

# Building a Regional Network

- Identify focal sites and work with managers
- Increase education and outreach efforts
- Expand International Shorebird Surveys
- Support and unite regional alliances







GABSCI seeks to:

## Maintaining Valuable Habitat

- Identify and reduce site specific threats to productivity
- Reduce disturbance for migrating, nesting and wintering birds
  - Recreationalists, dogs, vehicles
- Engage with managers of wetlands and duck clubs



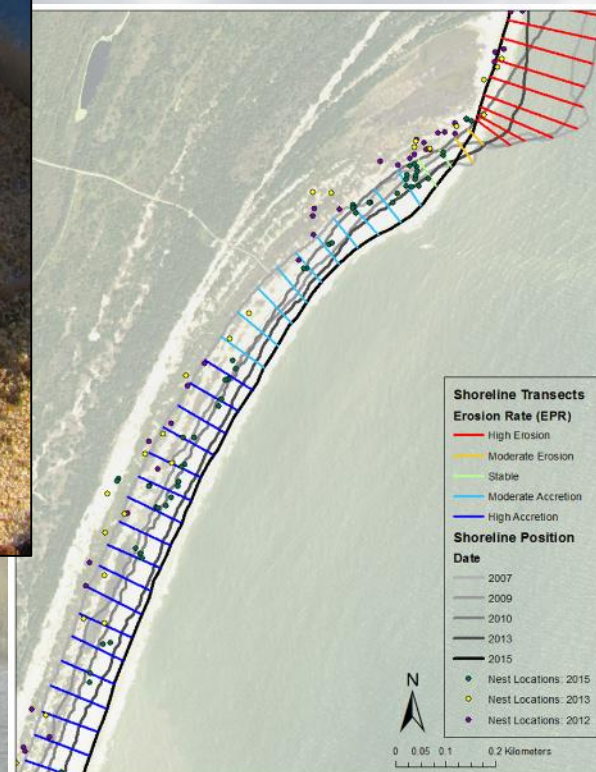




GABSCI seeks to:

# Planning Habitat for the Future

- Develop Best Management Practices for coastal engineering projects
- Collaborate with local municipalities
- Use research and apply tools to plan for future habitat requirements
- Advocate for shorebirds!





# Atlantic Flyway Disturbance Project Data Collection

- Standard Operating Procedures •

This work was funded by the National  
Fish and Wildlife Foundation.



## Guidance and Best Practices for Evaluating and Managing Human Disturbances to Migrating Shorebirds on Coastal Lands in the Northeastern United States

January 2019





# Human Disturbance

```
graph TD; A[Human Disturbance] --> B[Public-access beaches]; A --> C[Eco-tourism activities]; A --> D[Recreational boaters]; B --> E["Reducing disturbance at public beaches in Georgia": July 2019]; C --> F["Education & Certification Program": October 2019]; D --> G["Determining areas of high use for dist. reduction": January 2019 (pending funding)];
```

Public-access  
beaches

“Reducing disturbance at  
public beaches in Georgia”:  
July 2019

Eco-tourism  
activities

“Education & Certification  
Program”:  
October 2019

Recreational  
boaters

“Determining areas of  
high use for dist.  
reduction ”: January 2019  
(pending funding)



# 1) Disturbance reduction on public beaches

- 1) Pre-education surveys to document biological disturbance at 4 sites following VT protocol
- 2) Social science surveys of dog-walkers to get site specific information for CBSM campaign
- 3) Implement disturbance reduction campaign
- 4) Follow-up with biological and human survey to measure success









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# Community-based social marketing

Select a behavior



Identify barriers and benefits



Develop strategies



Pilot the program



Implement on large scale

Overall campaign:

- Increased signage
- Increased stewards
- New zones, new expectations: “Wildlife beaches”



SAVE ALL THE  
SHOREBIRDS!





WILDLIFE BEACH

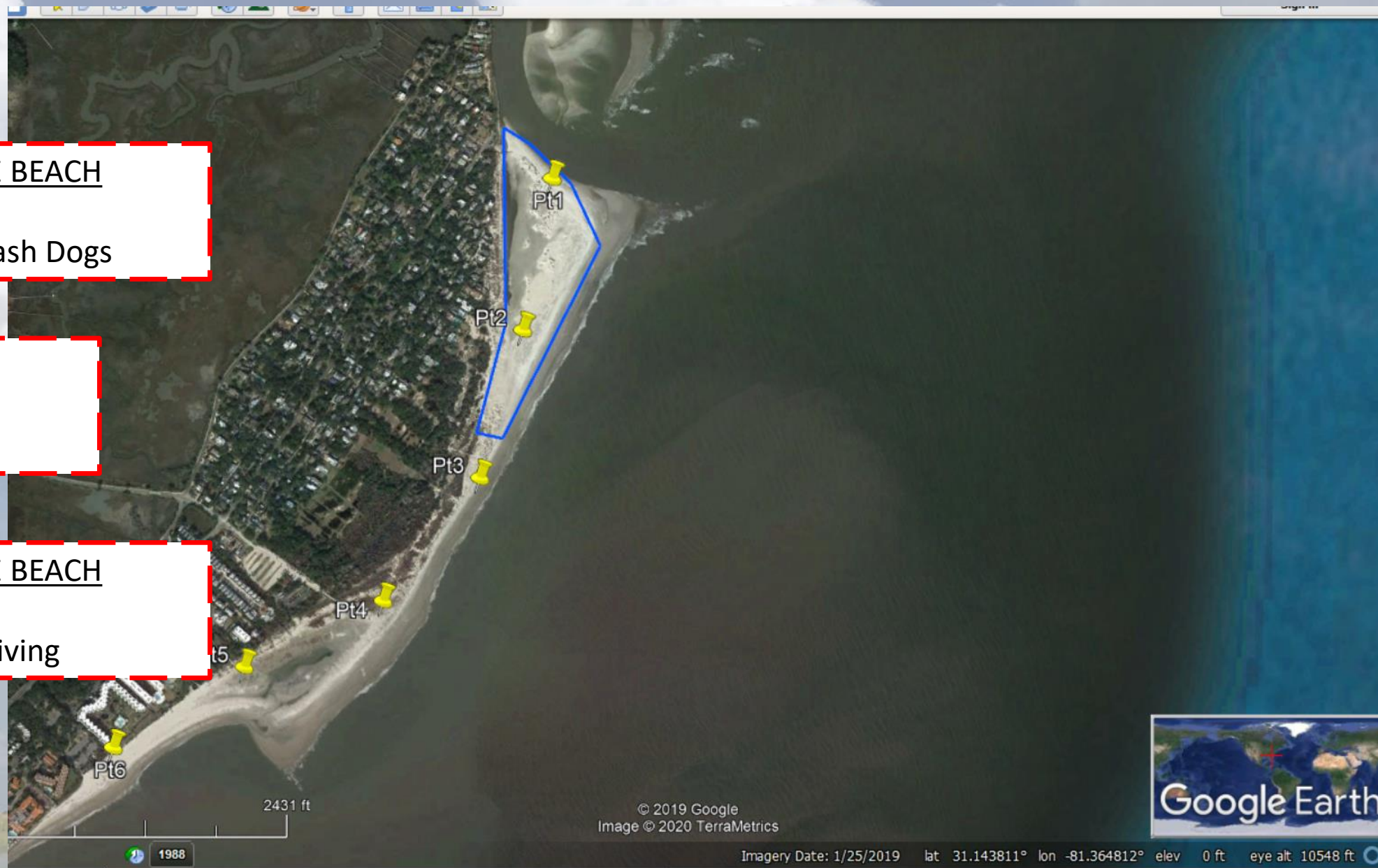
Please Leash Dogs

WILDLIFE BEACH

No Dog Zone

WILDLIFE BEACH

No Driving





# 1) Disturbance reduction on public beaches

- 1) Pre-education surveys to document biological disturbance at 4 sites following VT protocol
- 2) Social science surveys of dog-walkers to get site specific information for CBSM campaign
- 3) Implement disturbance reduction campaign
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## 2) Disturbance reduction with ecotourism education and certification

### Sustainable Ecotourism and Shorebird Habitat Protection: Building a Certification Program for Tour Guides



The Georgia coast provides critical habitat to shorebirds throughout the year and has been recognized as a landscape of hemispheric importance (WHSRN 2018).

#### Program Objectives

Ecotourism provides an opportunity to build support for conservation action. This project aims to leverage this opportunity to protect our wild Georgia coast, while supporting local, small business tour operators.

01

#### Program objective ONE

To reduce recreational disturbance of coastal habitat, which has serious implication for wildlife, specifically shorebirds.

02

#### Program objective TWO

To incentivize responsible ecotourism through a certification process thereby providing a marketable credential.



## TASK ONE

Develop database of charter boat, kayak and paddle board tour operators along the Georgia coast.

## TASK TWO

Generate interest and garner stakeholder input on content and structure of certification program.

## TASK THREE

Develop curriculum, online and in-person resources and certify a minimum of 25 tour guides.

01

02

03

## Project Deliverables

This project is funded by the Coastal Incentive Grant, managed by GA DNR's Coastal Resource Division. Funding for the first year of the project will allow for stakeholder input, program design and curriculum development.

- Two year project, hold first training sessions in Spring 2021
- Certify 25 guides in Savannah and Brunswick
- Main costs in design, continue implementing with partners and GSA



Marine Extension and  
Georgia Sea Grant  
UNIVERSITY OF GEORGIA



Collaborating organisations: Marine Extension and Georgia Sea Grant, Manomet and Georgia Department of Natural Resources



### 3) Disturbance reduction with recreational boaters

**The problem:** Remote areas, dogs, little enforcement, important nesting and feeding sites

**The plan:**

- Use surveys, ISS, expert opinion to determine sites with most significant overlap
- At these sites, survey boaters to determine values and **point of access**.
- Use cameras to collect biological data
- Implement education and outreach strategies to change culture
- Assess success and scale up



Likely residents,  
people with history at  
site, more impact?



# Main take-homes

- Expand focus to include migrating and wintering sites
- Three pronged approach with consistent messaging to create a culture of reducing disturbance
- Community involvement from early stages
- Partnerships make it possible
- Scale-up success within the Bight (and the world?!)





# International Shorebird Surveys

from 1974- 2017:

- over 100,000 ISS counts
- more than 800 volunteers
- over 3,400 locations in
- 48 states and 24 countries within the Western Hemisphere!

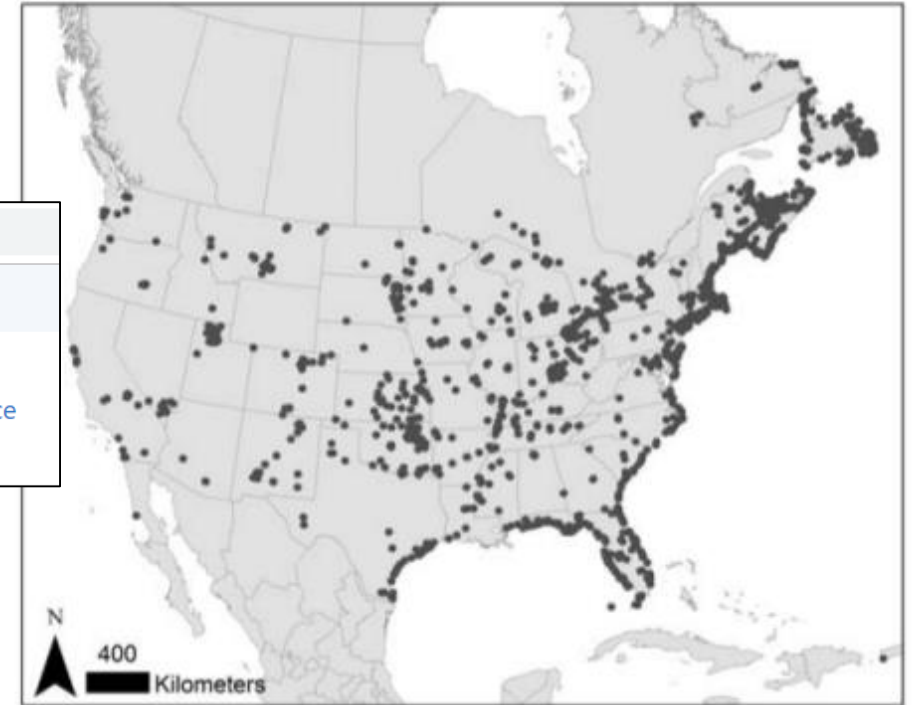
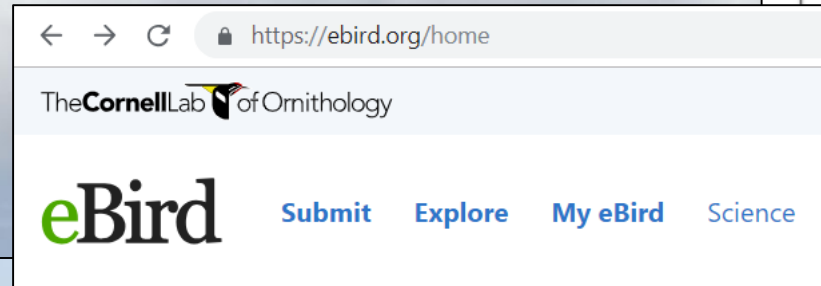


Figure 1. Sites where volunteers have carried out surveys of migrant shorebirds, 1974-2009.





# International Shorebird Survey Mapping Tool



## Select Species

--Include All Species--

## Select Project (ISS, CWC, CSS, CCAA)

- ☒ Include International Shorebird Survey
- ☒ Include Caribbean Waterbird Census
- ☒ Include Coastal Shorebird Survey (South America)
- ☒ Include Censo Centroamericana de Aves Acuáticas

## Select Location (select Site after Country and State)

--Select Country--

--Select State--

--Select Location--

## Select Month(s) and Year

- ☒ JAN ☒ FEB ☒ MAR
- ☒ APR ☒ MAY ☒ JUN
- ☒ JUL ☒ AUG ☒ SEP
- ☒ OCT ☒ NOV ☒ DEC

All Clear

☒ Past 10 Years

☐ Custom Years: 1974 to: 2019

Show Map

Reset

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[Instructions](#)

## About the data...

[Manomet](#) created this map using ISS records retrieved from [eBird](#), an online database of bird distribution and abundance from the Cornell Lab of Ornithology. Markers that hold a dot (•) are defined as eBird Hotspots.

The [International Shorebird Survey](#) (ISS) is an organization of dedicated partners and volunteers conducting field surveys during spring and fall migrations to provides hemispheric data on shorebirds.

\*Database currently includes all shorebird records entered into eBird through **September 2019\***

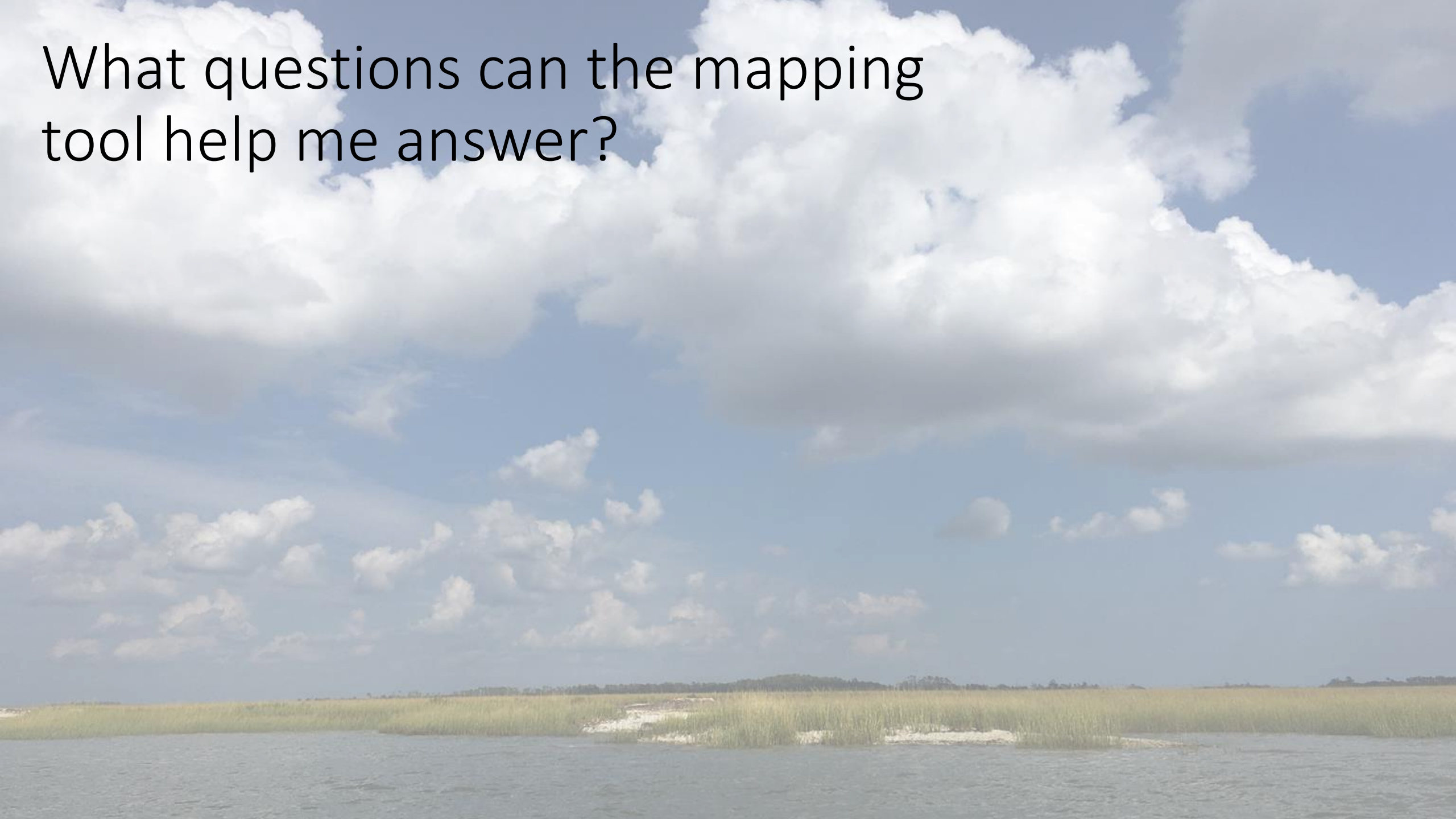
Detailed instructions on how to use the data selectors are [HERE](#)

For questions and suggestions on this mapping tool or if you are interested in becoming an ISS volunteer, please contact Lisa Schibley at [lschibley@manomet.org](mailto:lschibley@manomet.org).





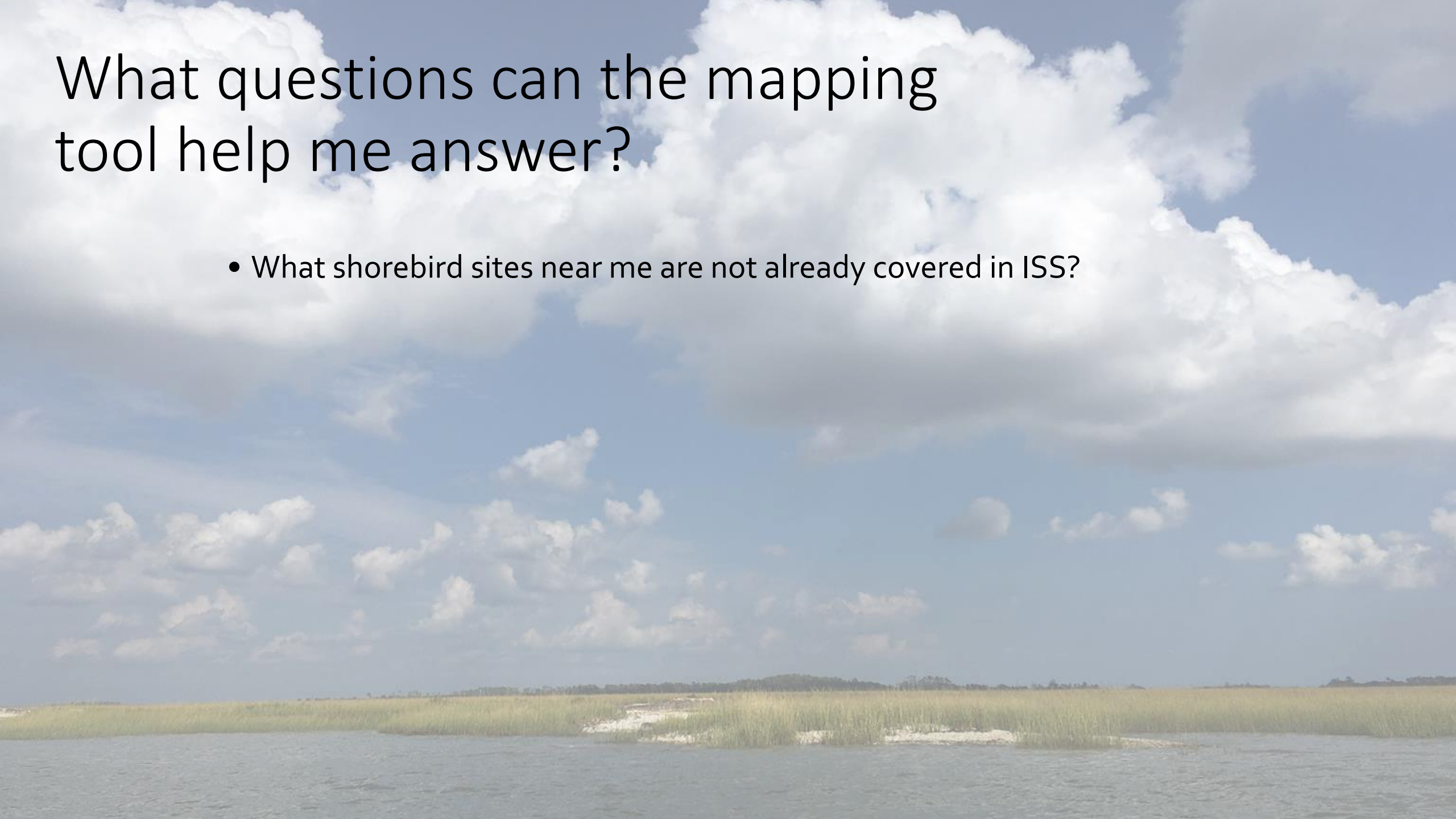
What questions can the mapping tool help me answer?





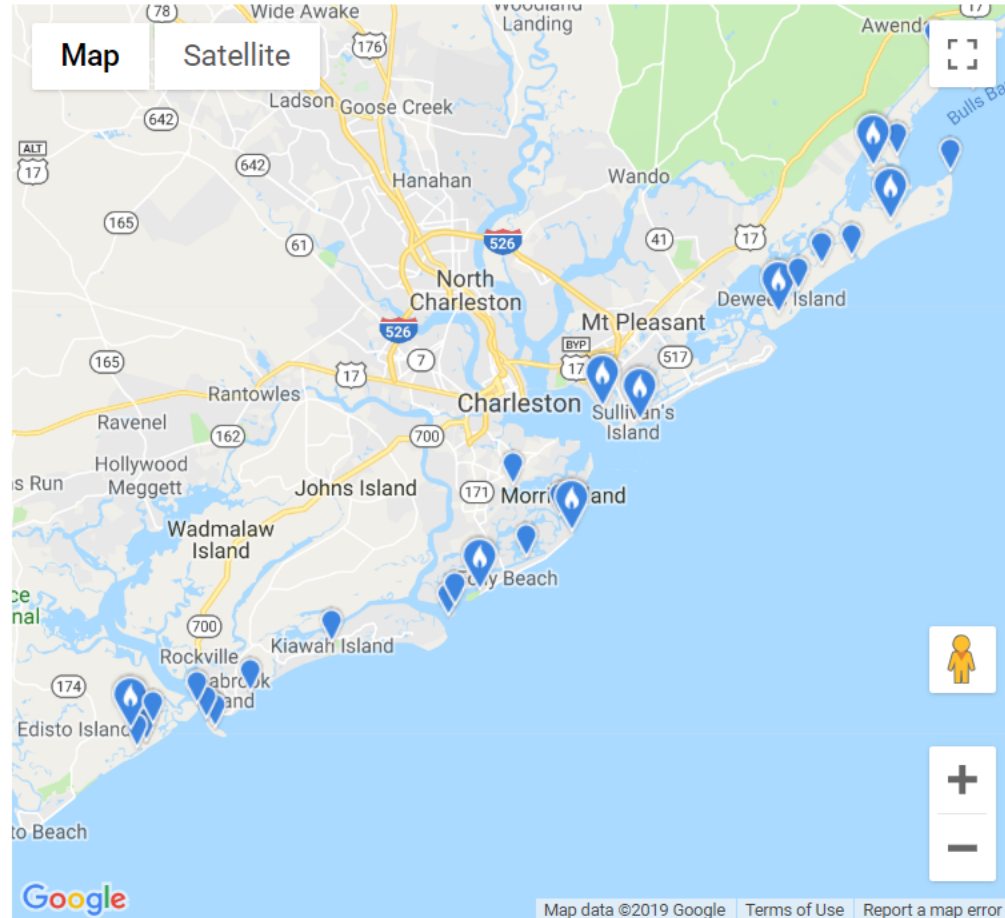
# What questions can the mapping tool help me answer?

- What shorebird sites near me are not already covered in ISS?





# International Shorebird Survey Mapping Tool



## Select Species

--Select Common Name--

## Select Project (ISS = blue & CWC = red)

☒ Include ISS data

☐ Include CWC data

## Select Location (select Site after Country and State)

United States

South Carolina

--Select Location--

## Select Month(s) and Year

☒ JAN ☒ FEB ☒ MAR

☒ APR ☒ MAY ☒ JUN

☒ JUL ☒ AUG ☒ SEP

☒ OCT ☒ NOV ☒ DEC

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☒ Past 10 Years

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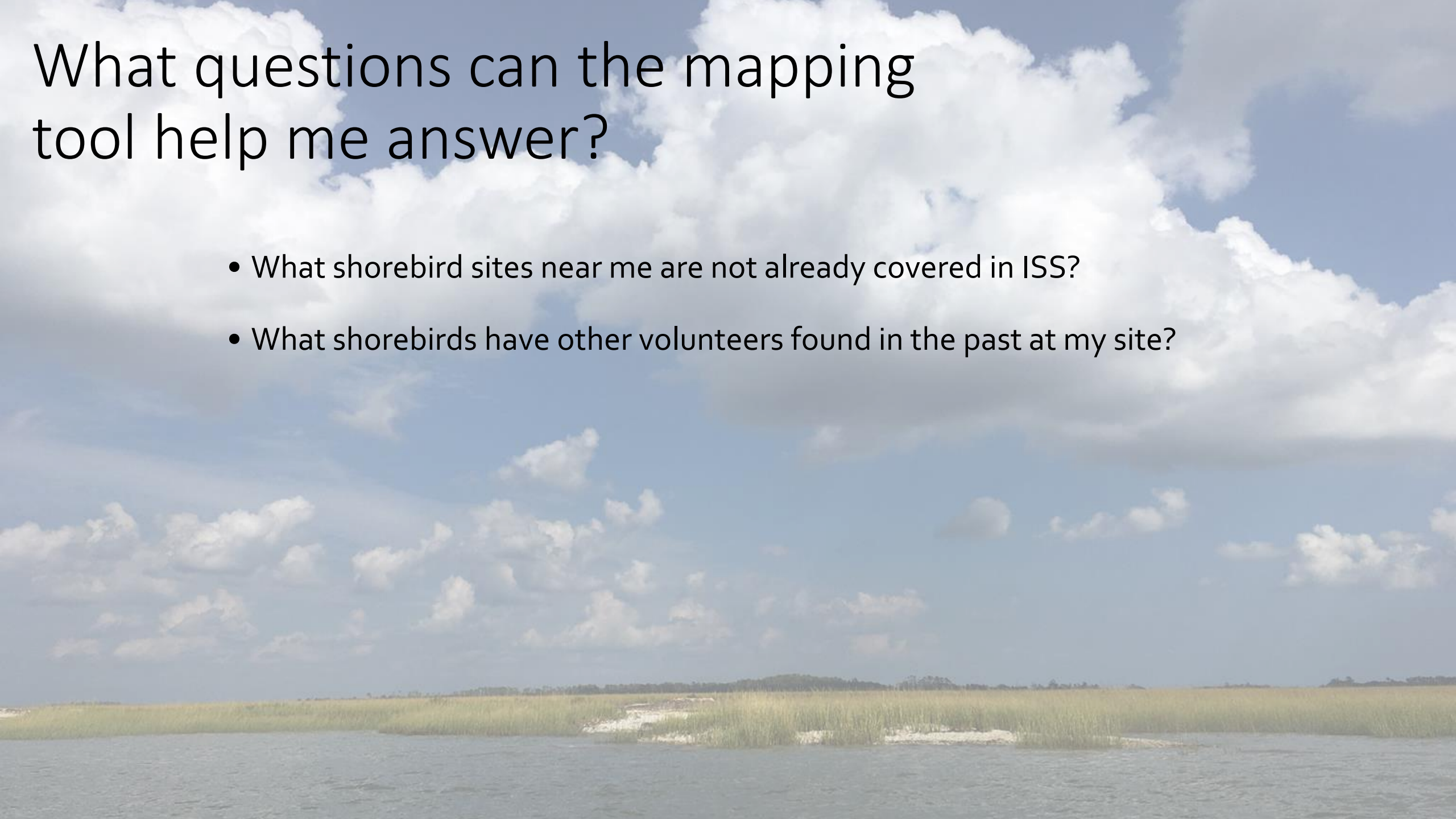
About the data...

- In the past five years there have been 54 active ISS sites in SC
- Can see gaps in coverage or data entry



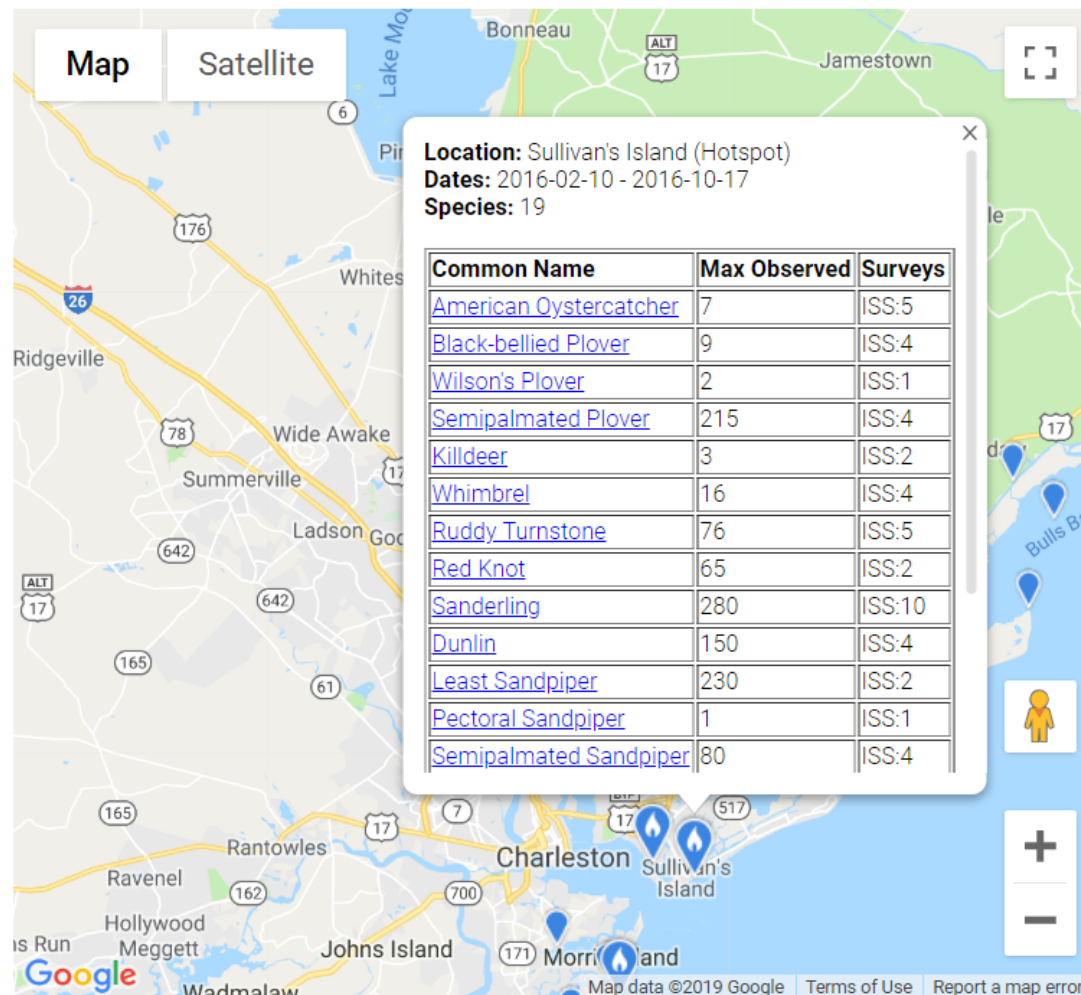
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- What shorebird sites near me are not already covered in ISS?
- What shorebirds have other volunteers found in the past at my site?





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- ☒ Include ISS data  
☐ Include CWC data

## Select Location (select Site after Country and State)

United States  
South Carolina  
--Select Location--

## Select Month(s) and Year

- ☒ JAN ☒ FEB ☒ MAR  
☒ APR ☒ MAY ☒ JUN  
☒ JUL ☒ AUG ☒ SEP  
☒ OCT ☒ NOV ☒ DEC

All Clear

- ☒ Past 10 Years  
☐ Custom Years: 1974 to: 2018

Show Map

Reset

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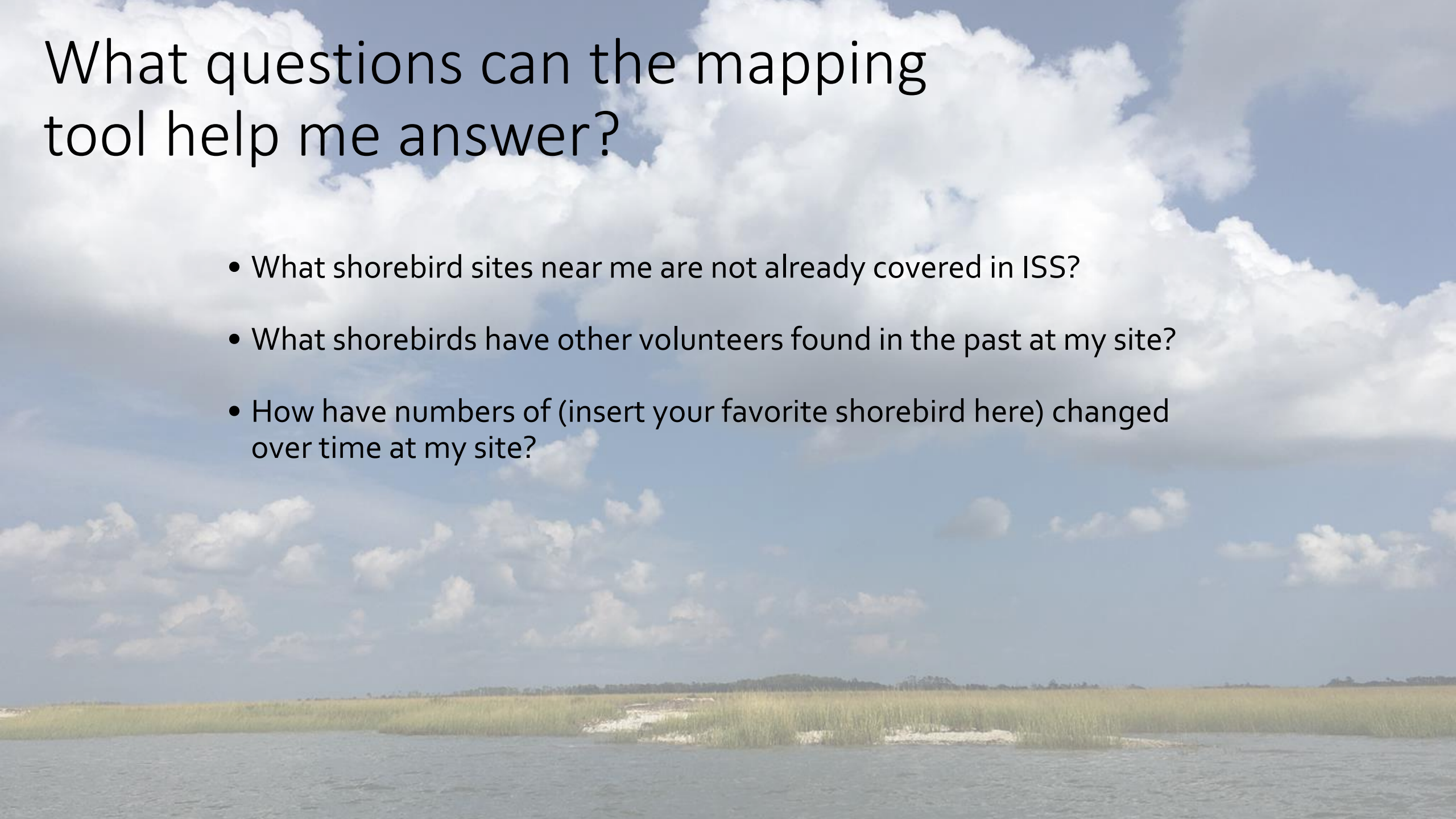
[Instructions](#)

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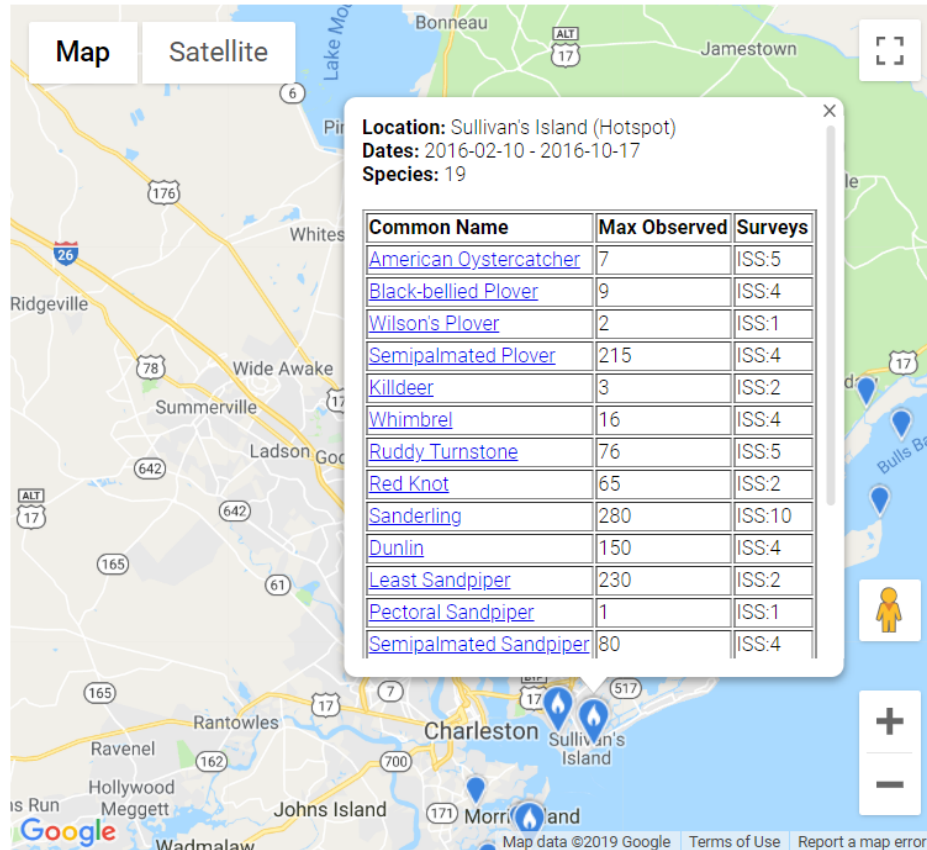


# What questions can the mapping tool help me answer?

- What shorebird sites near me are not already covered in ISS?
- What shorebirds have other volunteers found in the past at my site?
- How have numbers of (insert your favorite shorebird here) changed over time at my site?



# International Shorebird Survey Mapping Tool



## Select Species

--Select Common Name--

## Select Project (ISS = blue & CWC = red)

- ☒ Include ISS data  
☐ Include CWC data

## Select Location (select Site after Country and State)

United States  
South Carolina  
--Select Location--

## Select Month

- ☒ JAN ☒ APR ☒ JUL ☒ OCT  
☐ All   
☐ Past 10 Yr  
☐ Custom Yr

## Show Map

Locality: Sullivan's Island (32.7620883N, -79.8309517W)

Common Name: Sanderling

Surveyed by	Date	Protocol	Count	Checklist
obsr526152	2016-10-17	ISS	9	<a href="#">checklist</a>
obsr526152 - (+1)	2016-09-29	ISS	45	<a href="#">checklist</a>
obsr526152	2016-08-17	ISS	1	<a href="#">checklist</a>
obsr526152	2016-08-02	ISS	5	<a href="#">checklist</a>
obsr526152	2016-05-27	ISS	8	<a href="#">checklist</a>
obsr526152 - (+2)	2016-05-05	ISS	58	<a href="#">checklist</a>
obsr526152	2016-04-28	ISS	33	<a href="#">checklist</a>
obsr239079 - (+1)	2016-04-15	ISS	280	<a href="#">checklist</a>
obsr526152	2016-02-26	ISS	250	<a href="#">checklist</a>
obsr526152 - (+1)	2016-02-10	ISS	3	<a href="#">checklist</a>

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[Instructions](#)

About the data...

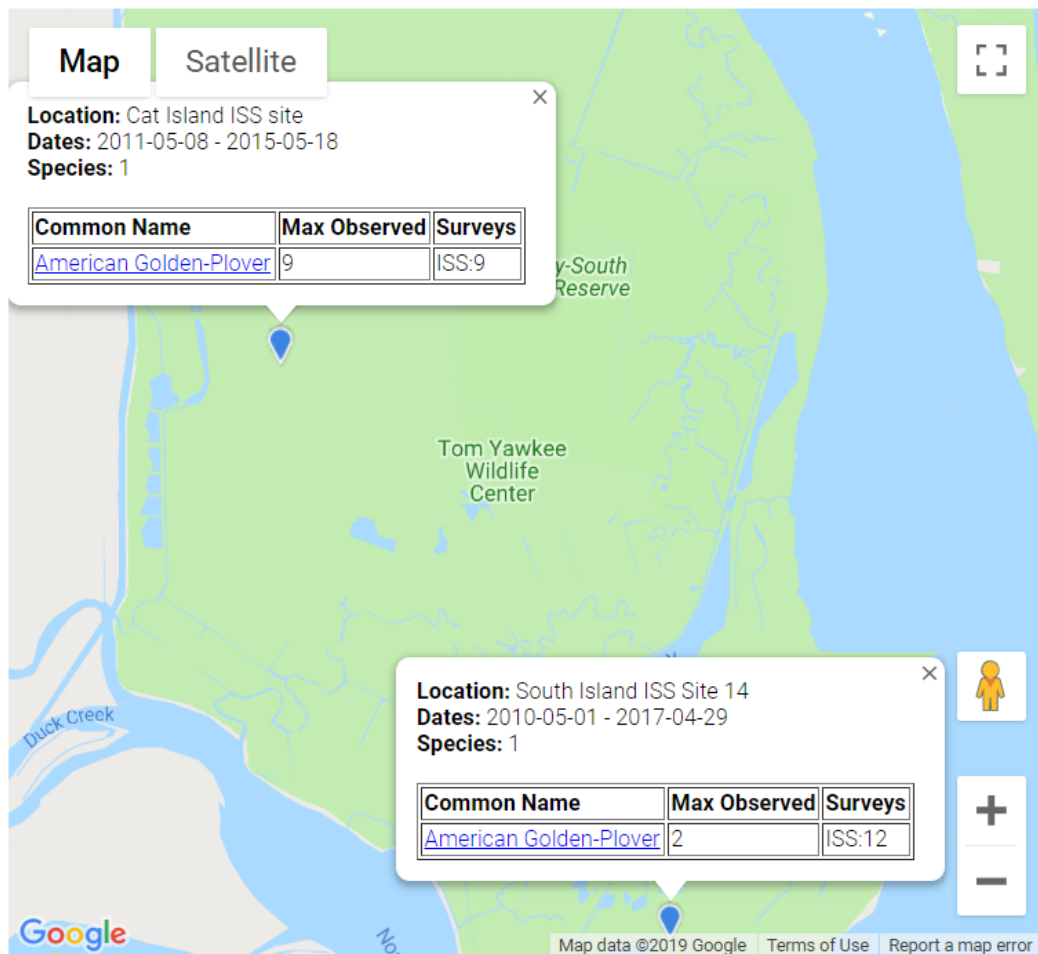


# What questions can the mapping tool help me answer?

- What shorebird sites near me are not already covered in ISS?
- What shorebirds have other volunteers found in the past at my site?
- How have numbers of (insert your favorite shorebird here) changed over time at my site?
- Am I likely to see a (insert a somewhat unusual shorebird here) at my site?



# International Shorebird Survey Mapping Tool



## Select Species

American Golden-Plover ▼

## Select Project (ISS = blue & CWC = red)

- ☒ Include ISS data  
☐ Include CWC data

## Select Location (select Site after Country and State)

United States ▼

South Carolina ▼

--Select Location-- ▼

## Select Month(s) and Year

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☒ APR ☒ MAY ☒ JUN  
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☒ OCT ☒ NOV ☒ DEC

All

Clear

☒ Past 10 Years

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Reset

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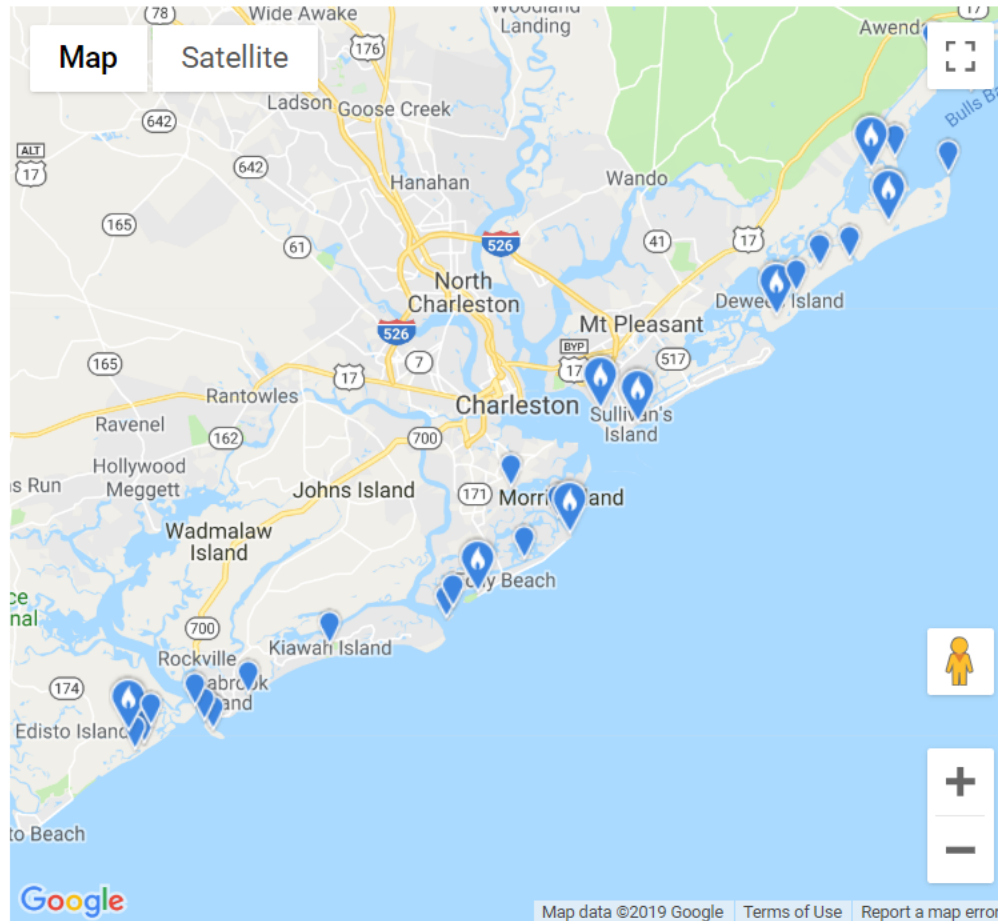
[Instructions](#)

About the data...



# And you can download the data too!

## International Shorebird Survey Mapping Tool



### Select Species

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### Select Project (ISS = blue & CWC = red)

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☐ Include CWC data

### Select Location (select Site after Country and State)

United States  
South Carolina  
--Select Location--

### Select Month(s) and Year

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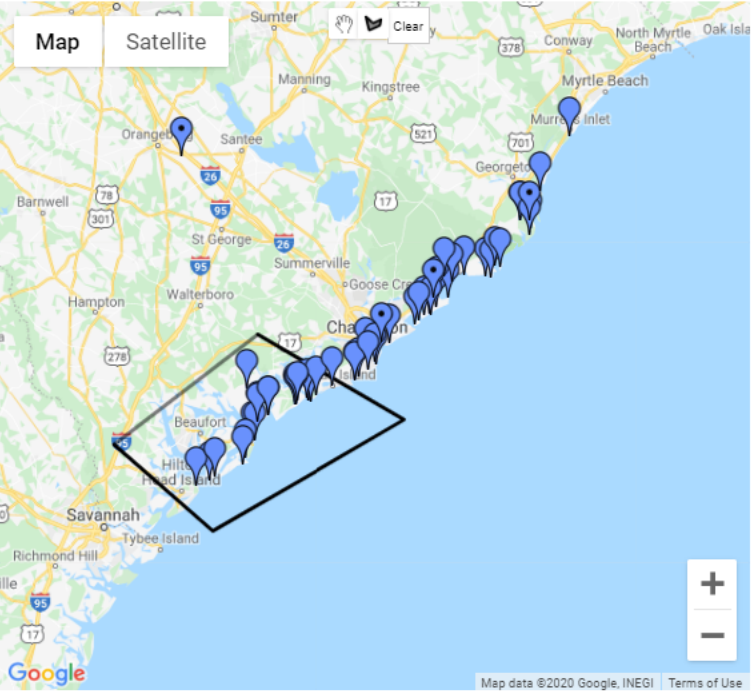
# New features!

## International Shorebird Survey Mapping Tool

Map

Satellite

Clear



+

-

Map data ©2020 Google, INEGI Terms of Use

Select Species

--Include All Species--

Select Project (ISS, CWC, CSS, CCAA)

☒ Include International Shorebird Survey

☐ Include Caribbean Waterbird Census

☐ Include Coastal Shorebird Survey (South America)

☐ Include Censo Centroamericana de Aves Acuaticas

Select Location (select Site after Country and State)

United States

South Carolina

--Select Location--

Select Month(s) and Year

☒ JAN ☒ FEB ☒ MAR

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Instructions

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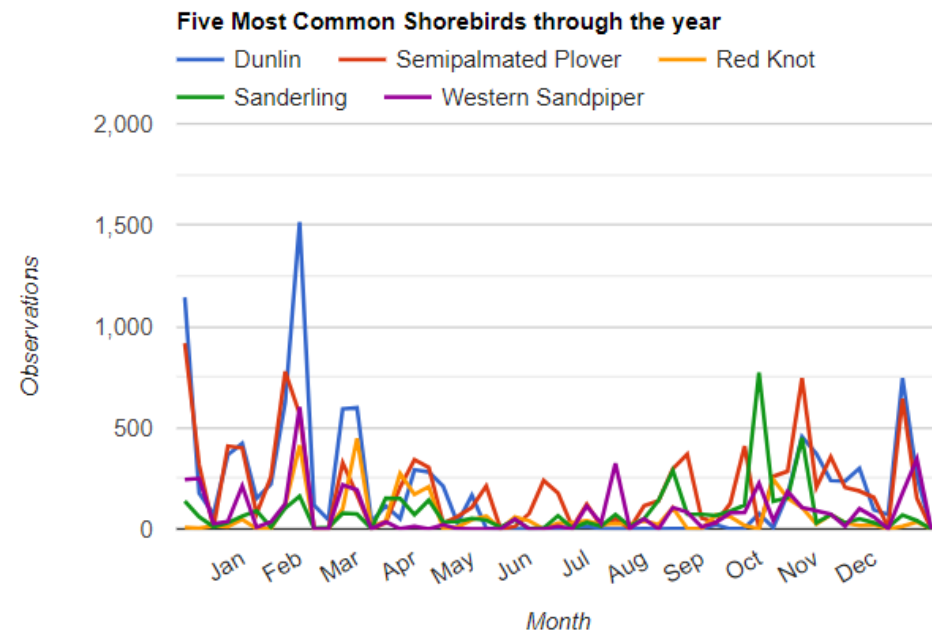
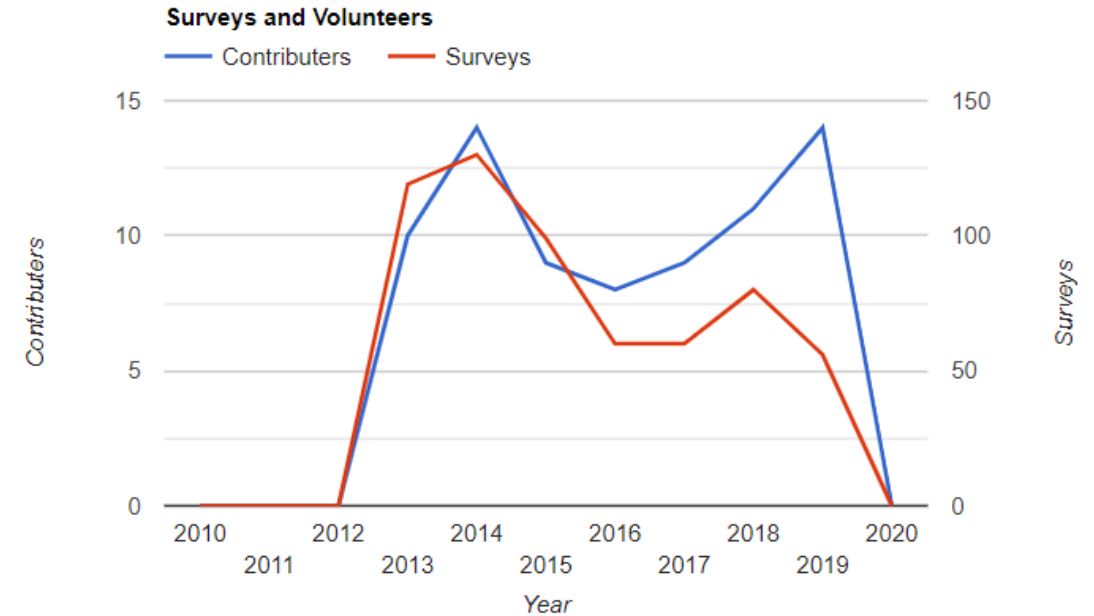
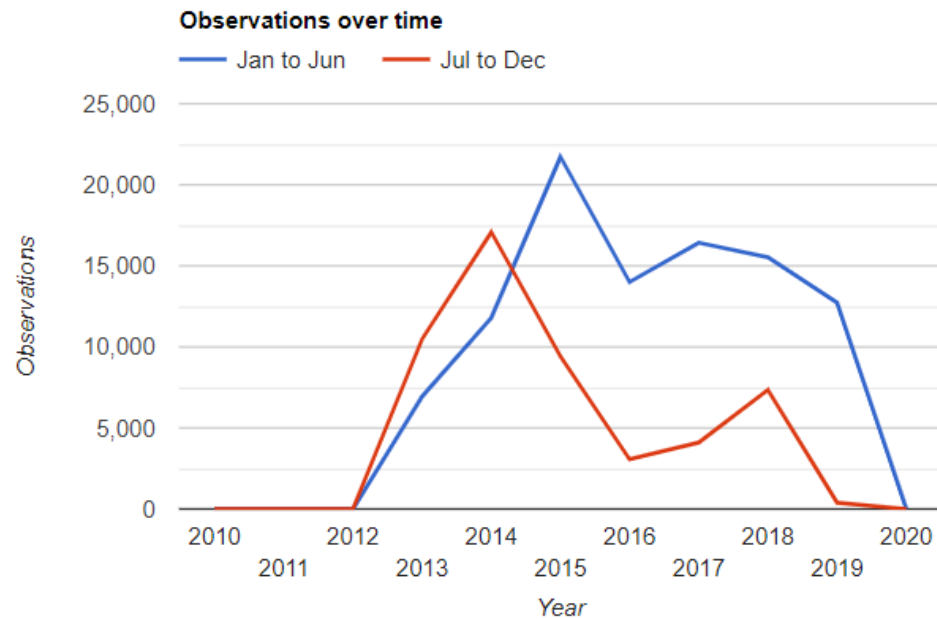
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Most common shorebirds found at your site	
Apr, May, Jun	Aug, Sep, Oct, Nov
Semipalmated Plover	Semipalmated Plover
Dunlin	Sanderling
Red Knot	Dunlin
Semipalmated Sandpiper	Red Knot
Short-billed/Long-billed Dowitcher	Western Sandpiper
Sanderling	Black-bellied Plover
Least Sandpiper	Semipalmated Sandpiper
Willet	Short-billed/Long-billed Dowitcher
Whimbrel	Least Sandpiper
Black-bellied Plover	Marbled Godwit



# New Quarterly Newsletter!

## International Shorebird Survey

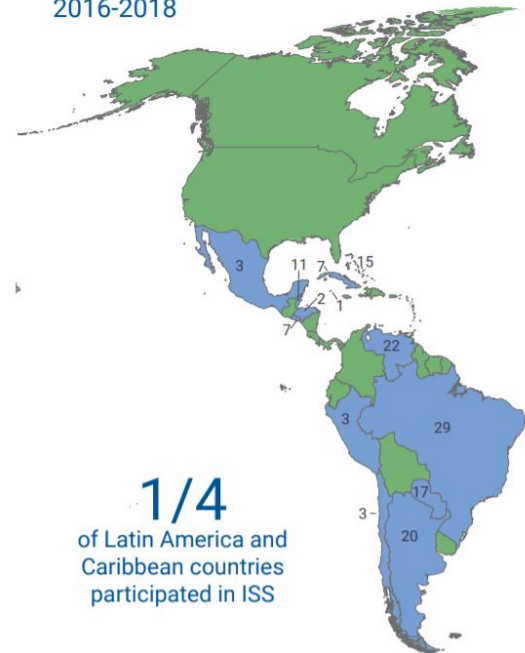
Special Latin America and Caribbean Edition  
Newsletter August 2019

### In the beginning...

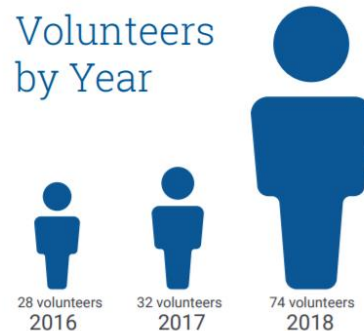
In 1974, Manomet launched the volunteer-based International Shorebird Survey (ISS) to gather information on shorebirds and the habitats they depend on. With dedicated volunteers conducting surveys during spring and fall migrations, this monitoring network has completed over 100,000 surveys with counts surpassing 100 million shorebirds. The data compiled have been fundamental for population size and trend analyses, identification of many key stopover sites, and formed the principle data source documenting wide-scale shorebird population declines. This newsletter will focus on recent efforts to increase ISS in Latin America and the Caribbean.



### Volunteers by Country Latin America and Caribbean 2016-2018



### Volunteers by Year



### 2019 Goals

- » Over 100 Volunteers
- » Over 100 Sites
- » 40% of countries with ISS sites
- » 50% of sites are surveyed 3 or more times
- » 50% of WHSRN sites participate

1/4

of Latin America and Caribbean countries participated in ISS

## Increasing ISS in Latin America and Caribbean

### Numbers are up with targeted recruitment


Over the last three years the number of ISS participants has increased significantly with 106 volunteers participating from 2016-2018. That has lead to 144 sites in 2018 and doubled the eBird lists from 2016 to 2018. With the growth of volunteers, there was also a geographic expansion of ISS





# ISS Updates:

- ISS Data contributes to 3 billion bird report
- ISS volunteers are eligible to purchase Kowa optics!
- Need support? Want to start a count? Have back data to enter? Want some training or have questions? Contact me!


 Kowa Optical Products Co., Ltd. **PROMINAR**

HOME | JAPANESE | AMERICA | EUROPE

PRODUCTS | WHAT'S NEW | DISTRIBUTOR LIST | SERVICE & SUPPORT | FAQ

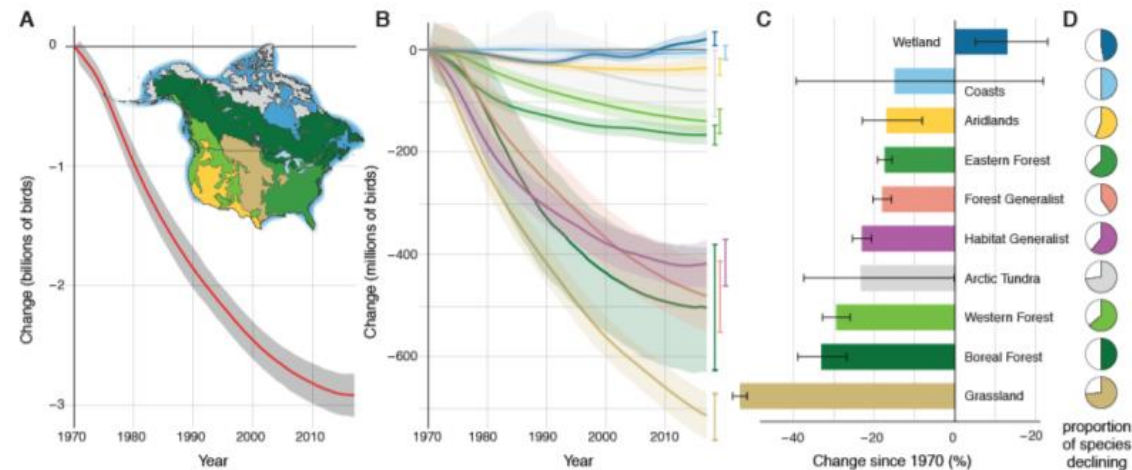
## SPOTTING SCOPES

- TSN-550 Series
- TSN-500 Series
- TSN-880 Series
- TSN-770 Series
- TSN-82SV
- TSN-660M Series
- TSN-600 Series



Science  
AAAS

Submitted Manuscript: Confidential



**Fig. 1. Net population change in North American birds.** (A) By integrating population size estimates and trajectories for 529 species (18), we show a net loss of 2.9 billion breeding birds across the continental avifauna since 1970. Gray shading represents  $\pm 95\%$  credible intervals around total estimated loss. Map shows color-coded breeding biomes based on Bird Conservation Regions and land cover classification (18). (B) Net loss of abundance occurred across all major breeding biomes except wetlands (see Table 1). (C) Proportional net population change relative to 1970,  $\pm 95\%$  C.I. (D) Proportion of species declining in each biome.



# Thank You!

Contact Info:

Abby Sterling ([asterling@manomet.org](mailto:asterling@manomet.org))

Brad Winn ([bwinn@manomet.org](mailto:bwinn@manomet.org))

